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The problem of school–age Children Language disorder in Sudan

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Abstract

The study aims at identifying the causes of Language disorder among Sudanese school-age children. For collecting data, the researcher has planned a questionnaire to elicit experts` opinions. Nuerolinguistic, psychotherapists are contacted together with other experts. Their responses have been analyzed. The analysis has indicated that most of Language disorders are due to the following:

A: Brain injury or damage.

B: Genetic factors.

C: Environmental factors.

D: Birth injury.

Each of the above causes or a combination of more than one is thought to be responsible of one or more aspects of Language disorder.

The researcher concluded the study by putting forward a number of suggestions and recommendations.

Keywords: problem of school, Language disorder, in Sudan**.**

ملخص البحث:

تهدف هذه الدراسة إلى التعرف على أسباب اضطرابات اللغة بأنواعها المختلفة وسط الأطفال في سن الدراسة.

لجمع المعلومات استخدمت الباحثة المنهج الوصفي التحليلي حيث أعدت استبيان لمعرفة آراء الخبراء في هذا المجال خاصه اختصاصي الأعصاب واختصاصي العلاج النفسي وغيرهم من الخبراء.

وتم إخضاع المعلومات التي تحصلت عليها الباحثة للتحليل (تحليل المحتوى) وتوصلت إلى النتائج التالية كأسباب لمشاكل اضطراب اللغة:

١. إصابات وتهتك المخ.
٢. العوامل الوراثية.
٣. العوامل البيئية.
٤. إصابات أثناء الولادة.

وقد ختمت الباحثة الدراسة بتقديم عدد من الاقتراحات والتوصيات.

الكلمات المفتاحية: مشكلة المدرسة، اضطراب اللغة، في السودان.

Chapter one

The general Framework of the Study

Introduction:

Language disorder (aphasia) among children has been a big problem for families teachers and education administration as well in Sudan. This problem (Language disorder) is mostly evident among children in speech and writing. It takes many forms and shapes Such as stammering and stuttering and their inability to compose grammatically correct sentences .Several interpretations have been put forward for this state of affairs .Some relate the speech difficulty encomtfred by children

To the injury or damage of the part of the brain responsible for Language acquisition. Others claim that it is a result of a genetic dysfunction deriving this assumption from the fact that certain forms of language disorder happen in certain families.

Therefore the researcher attempts to investigate and identity the various factors which cause language disorder in such children and find solutions to the stated problem.

1. Statement of the problem :

Why do some Sudanese children suffer from Language disorder?

2. The objectives of the Study:

1- To identify the types of language disorder among Sudanese children.
2- To identity the general causes of aphasia among Sudanese children.
3- To find solutions to the stated problem.

3. The significance of the Study:

The findings of this research will help families, educators and neurologists in dealing with the problem and finding solutions to it.

4. Questions to be answered by the research:

1. What are the types of languages disorder that take place in Sudanese children?
2. What is the biological cause for this problem?
3. Why does this problem take place in certain families in particular?
4. How could families, schools, society organization help overcome language disorder in children?

5. Hypotheses of the research:

1. Sudanese children experience various types of language problems in speech production and reception.
2. This problem could be the result of brain injury or damage.
3. Language disorder could be the result of genetic dysfunction.
4. The society plays a great role in shaping children behavior.
5. Families, schools and societies play a greet role in correcting language disorder in children.

6. Limitation of the Study:

This study is Imitated to highlight the causes that underlie Sudanese school children in Khartoum state.

8. Methodology:

For gathering data for this research, the researcher is going to employ the descriptive analytic method together with content analysis. Besides, she intends to use questionnaires.

Chapter Two

Review of Related Literature

1. Introduction

Language and the brain the case of Phineas gage

In September 1848, near Cavendish, Vermont construction foreman called Phineas P. Gage was in charge of construction crew blasting away rocks to lay a new stretch of railway line. As Phineas pushed an iron tamping rod into the blasting hole in a rock, some gunpowder accidentally exploded and sent the three and a half foot long tamping rod up through Phineas upper left check and out from the top of his forehead .The rod landed about fifty yards away Phineas suffered the type of injury from which it was assumed ,no one could recover. However, a month later Phineas was up and about with no apparent damage to his senses or his speech.

The medical evident was clear. A huge mental rod had gone through the front part of Mr. Gage's brain but Mr.Gage's language abilities were unaffected. This point of this amazing tale is that if language ability is located in the brain, it is clearly not situated right at the front.

2. Parts of the brain

Since Phineas time, a number of discoveries have been made about the specific areas in the brain which are related to language functions. In order to talk about this in greater detail, readers need to look more closely at some of the grey matter. So, take a head, remove hair, scalp, skull, disconnect the brain stem (which connects the brian to the spinal cord) and cut the corpus callosum (which connects the two hemispheres). If people disregard a certain amount of other material they will basically be left with two parts,the left hemisphere and the right hemisphere. If the right hemisphere is put aside for a moment and the left hemisphere is placed down, so that people have a side view they will see the following.

1. Broca's area: this part is described as the anterior speech Cortex or more usually as Broca's area. Paul Brouca, a French surgeon reported in 1860s that damage to this specific part of the brain was related to extreme difficulty in producing speech. It was noted that damage to the corresponding area on the night hemisphere had no such effect. This finding was first used to argue that Language ability must be located in the left hemisphere and since thenvhas been taken as more specifically illustrating that Broca's area is crucially involved in the production of speech.
2. Wernicke's area:

Wernicke's was a German doctor who in the 1870 s, reported that damage to this part of the brain wets found among patients who had speech comprehension difficulties. This finding confirmed the left hemisphere location of Language ability and led to the to the view that Wernicke's area is part of the brain crucially involved in understands speech.

3. The motor cortex: this part generally controls movement of muscles (: for moveing hands, feet, arms). Close to Broca's area is the part of the motor cortex that controls the articulatary muscles of the face, jaw, tongue and larynx. Evidence is that this area is involved in the actual physical articulation of speech comes from the work, reported in 1950s of tow neurosurgeons penfield and Roberts, these researchers found that , by applying minute amounts of electrical current to specific area of the brain, they could identify those areas where the electrical stimulation would interfere with normal speech production.
4. The arcuate fasciculus:

This is a bundle of nerve fibers it was also one of Wernicke's discoveries and forms a crucial connection between Wernicke's area and Broca's area.

3. The localization view:

Having identified these four components, it is tempting, of course, to come to the conclusion that specific aspects of language ability can be accorded specife locations in the brain. It has been proposed that the brine activity involved in hearing a word, understanding it, then saying it , would follow a definite pattern.

The word is heard and comprehended via Wernicke's area. This signal is then transferred via the arcuate fasciculus to Broca's area where preparations are made to produce it. A signal is then sent to the motor cortex to physically articulate the word.

This is unfortunately , a massively oversimplified version of what may actually take place.The problem is, essentially ,that in attempting to view the complex mechanism of the human brain in terms of a set of language 'locations' people have neglected to mention the intricate interconnections via the central nervous system , the complex role of the brain's blood supply, and the extremely interdependent nature of most brain functions.

The localization is one way of saying that our linguistic abilities have identifiable locations in the brain. However, it is invariably argued by others involved in the study of the brain that there is a lot of evidence which does not support the view. Any damage to one area of the brain appears to have repercussions in other areas .Consequently people should rather cautious about assigning highly specific connections between particular aspects of linguistic behavior and sites an the wrinkled grey matter inside the head.

4. Neuro – Linguistics and language loss

The researcher will begin with the most extensively studied examples of linguistics dissolution the loss of language due to brain damage. Neurolinguistics an offspring of psychlinguistics in vestigate how the human brain creates and possess speech and language.

Before examining the findings of neurolinguistics research, the researcher would like to clear up some misunderstandings about the human brain and the way it functions .One example is the disproportionate attention devoted to the well–known anatomical fact that human brains have two separate identical cerebral hemispheres. Biologically, this is an unremarkable piece of information for this bifurcation is found in all vertebrates and is itself a characteristic of the bilateral symmetry that pervades human living word however there exists an unusual enchantment with the brain in human current culture so that this anatomical condition has promoted a great deal of discussion about left brain versus right brain differences in human behavior.

What the media and most people forget is that anatomically there are millions of association path ways which connect the left and the right hemispheres together so that in normal brain information either hemisphere is immediately shard with the other. The function of the corpus callosum(the largest sheath of association path ways connecting the too hemispheres) is often unknown , ignored or misunderstood ,so that nowadays it is often represented as a fact that there are left_brained and right_brained people in the same way that individuals can be left or right handed. Misconceptions like these about neurology lead quite naturally to misconceptions about the relationship between the brain and the mental states or linguistics structures but now it is time to look at the brain and to acknowledge the legitimacy of neurolinguistics as a sub–field of the psycholinguistics of Language. Sadly, people learn the most when this precious piece of anatomy is damaged.

People can get an idea about the way the brain controls human speech and language without resorting to anatomy text or arranging to view a craniotomy.

Take your left hand and cup it over your left ear so that palm of your hand is clapped over relation to any other part of the body. First of all because there are no pain receptors in the brain,

Any distress that is felt comes from the tissues that surround the brain the source of discomfort in a headache and not the brain itself and that is why a stroke unlike a heart attack is not necessary a painful experience. The second irony is that of all the tissues that comprises the human body, the nerves in the central nerves system do not regenerate. Once they are damaged they do not grow back ,so brain injury is permanent though given the right circumstances ,functional loos is sometimes recovered most frequently within a year of the initial injury.

5. People's cultural transmission of Language disorder

While People may inherit physical features such as Brown eyes and dark hair from their parents, they do not inherit their language. They acquire a language in a culture with other speakers and not from parental genes.

An infant born from Korean parents in Korea, but adopted and brought up from birth by English speakers in the United States will have physical characteristics inherited from his natural parents but will inevitably speak English.

This process whereby languages is passed on from one generation to the next is described as cultural transmission. It is clear that humans are born with some kind of predisposing to acquire languages in several senses

However, they are not born with the ability to produce a specific language such as English.

They acquire their first language as children in a culture. The general pattern in animal Communication is that creatures are born with a set of specific signals that are produced instinctively. There is some evidence from studies of birds as they develop their songs that instinct has to combine with hearing (or exposure) in order for the right song to be produced.

If those birds spend their first sever weeks without hearing other birds, they will instantly produce songs or calls but those songs will be abnormal in some way.

Human infants growing up in isolation, produce no (instinctive) language.

Cultural transmission of a specific language is crucial in the human acquisition process.

6. Language Disorder

In the 1860s, the physician Paul Broca observed that damage to the left side of the brain resulted in impaired language ability while damage to the right side of the brain did not since that time. Researchers have observed that upproximately 70% of the people with damage to the left hemisphere experience aphasia an inability to perceive , process, or produce language because of people suffering from damage to the right hemisphere. This provides additional support for the view that language is localized in the left side of the brain.

As it might be guessed the linguistic skills that are affected as result of aphasia depend on where the brain damaged is suffered. Individuals with Broca's aphasia a damage to Broca's area suffer from inability to plan the motor sequences used in speech or if it is considered what the accurate fasciculus does, it transmits information from Wernicke's area to Broca's area.

7. Language loss from inherited disorder

It is now popular to suggest a genetic basis for many forms of human behavior. Genetics shoud be used as a court of last resort not as the first time of defense. b

But recent work in psycholinguistic has uncovered certain rare examples of how language dissolution appears to be inherited disabilities which do not attack Language directly. Loss of linguistic capacity in a consequence of more global loss of all higher cognitive function. That occurs about on every goo births and along was with market anatomical abnormalities leave the child moderately to severely impaired in all cognitive functions. The degree of language disability is directly proportionate to the amount of cognitive damage and there are cases of less severely affected children not only acquiring their mother tongue, but learning a second language as well. The enlargement of the tongue creates poor articulation and though comprehension is not significantly affected, expensive speech is hesitant and limited in a manner reminiscent of Broca's aphasia.

Chapter Three

Methodology and procedure

This study aims at identifying the causes of speech and language disorder among school –age-children in Sudan and their consequence in language learning as well as natural social interaction.

The researcher has referred to many references dealing with the problem under study. She has also referred to the help of speech therapists, doctors, nerve surgeons and psychologists.

Besides, the oral interviews, the researcher has planned a questionnaire to elicit information from the above-mentioned experts. Their responses were then analyzed.

The questionnaire for experts

Dear sir / madam

This questionnaire is planned for research study on ” language disorder among school- age children in Sudan, a topic which is closely related to the field of neuro_linguistics. Many anatomical and environmental factors have been suggested as to the cause of these language disorders.

This research aims at identifying these factors via research and at the same time, tries to final practical ways to minimizing the negative impacts of these factors on school –age children. For these reasons, your cooperation is very important.

Your ideas and information will be used only to the purpose of this research

General information:

Name :(optional_____

Occupation _____

Academic qualification _____

Years of experience_____

<u>The questionnaire</u>

1. What kind of language disorder does some school age children exhibit?

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2. To what would you attribute the causes of these language disorders?
   A .genetics.

B. Environment.

C. brain injury or damage.

D. Other:

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3. Which of the following features do such children exhibit?
   A. Failure to produce words.
   B. Failure to produce connected sentences.
   C. Failure to understand others' speech.
   D. Failure to understand when meaning depends on syntactical order in a sentence.

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4. Why do certain language disorders run in certain families?

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5. Does the surrounding environment have anything to do with language disorders in children?

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6. How could families, teachers and society organizations help these children?

Thanks for you

Chapter Four

Results and recommendations

The analysis of the expert's questionnaire and review of related literature have shown that language and speech disorder are due to the following factors.

A. Brain damage or injury :
   Brain damage or injuries are thought to be responsible for most language disorders in school age children they impede correct organization of words in sentences or make it difficult for such people to understand final sentences whose meaning are dependent on syntax.
B. The study also indicated that some language disorders are due to genetic problems this is based on the fact that certain language disorders run in certain families.
C. Some types of language disorders such as stammering are caused by environmental disorders.
D. Birth injury is thought to be responsible for some of language disorders.

Interpretations of the results

1. Brain injury or damage in children may result from children falling down when they are left to play on their own without any supervision.
2. Genetic speech problems may develop from marriage to close relations as the customs are in many developing countries.
3. Language disorders sprouting from environmental factors could be due to ignorance prevailing in many communities where parent fail to check language disorders to a very early stage.
4. Birth injures always result when child_Birth is carried out by local unframed midwives.

Suggestions:

To ovoid the above problems, the researcher suggests the following:

1. Raising awareness of mothers in the field of childcare, to monitor their children while they play.
2. Language disorders of genetic origin could be avoided or at least lessened by avoiding marriage among close relations.
3. Disorder related to beirth injuries could be avoided when women are encouraged to deliver their babies in hospitals where they could receive proper care and attention.

Recommendations:

- The researcher requests other researchers to carry out further researches on the following topics.
- The role of intensive child-care in lessening language and speech problems.
- The role of social civil institution in helping children who are suffering from language disorder.

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